

Manufacturing and Marketing Problem of Bamboo Product in Tamilnadu

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Abstract - Bamboo handicraft sector is pre-dominant in the Indian handicrafts and there are millions of people who depend on bamboo for part or all of their income. The study was conducted using a descriptive research. 415 samples are collected from farmers and handicraft worker. Mean and standard deviation were analyzed based on the data. It is found that the respondents are having the more level of problem during the selling of bamboo product. There are long market channels, lack of processing unit, increasing cost of transport and lack of storage facilities. The respondents were felt that bamboo cultivation is not considered as low risk and easy selling. However, they are cultivating the bamboo due to less work and suitable for land and natural climatic condition

Keywords: *Handicraft, SME, Bamboo and Market*

INTRODUCTION

India is the second country in bamboo genetic resources. Bamboo is a versatile multi-purpose product and forest produce that plays a vital role in the world's domestic and industrial economies, (FMT) Forest Management in Tamilnadu, (2015). Balaji, S. (1991) stated the bamboo is an evergreen flowering plant belonging to the grass family. They are considered as the fastest growing plants in the world. It is detected that some species of bamboo can grow to almost 30 cm in a day. National Mission on Bamboo Applications claimed that the plant is of economic importance in regions of South Asia, Southeast Asia and East Asia. It is considered that there are more than 1400 species of bamboo all round the world.

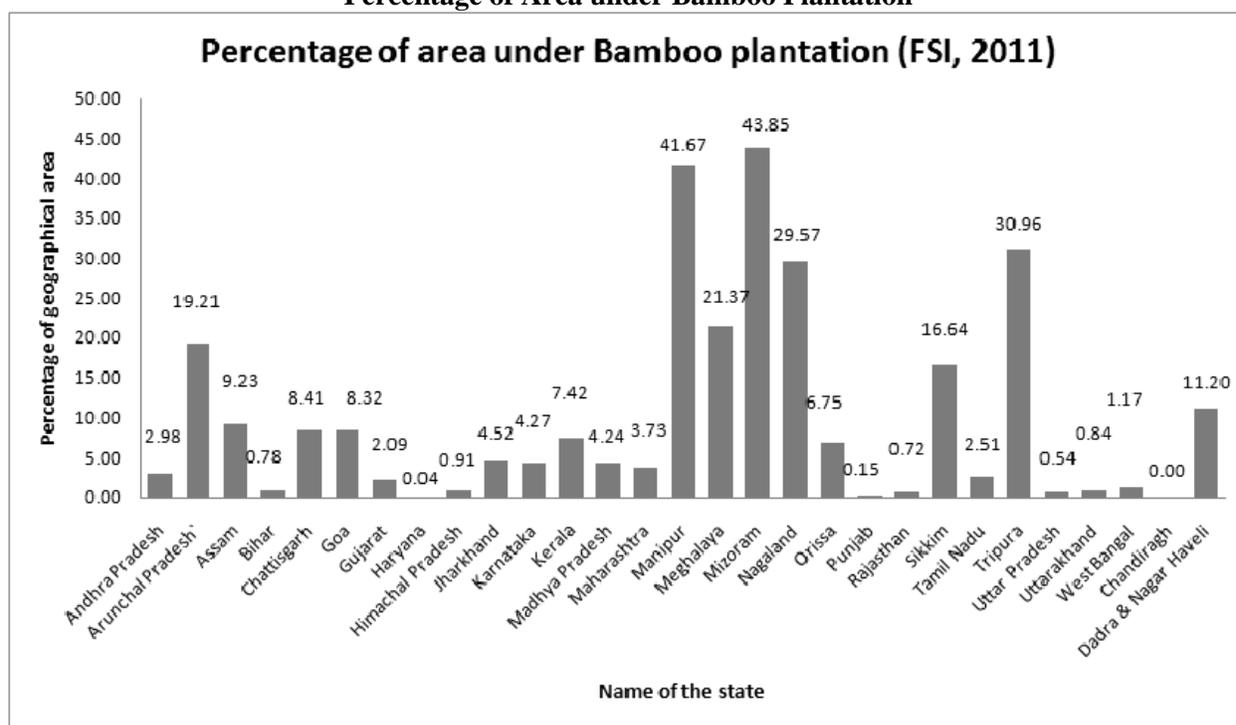
Planning Commission, (2003) stated the bamboo and bamboo-based products are used for a wide range of indoor and outdoor applications owing to their abundance and versatility. The bamboos are used for industrial applications include food production, handicrafts, medicinal products, pulp and paper, cottage industries, wood substitute, and charcoal production.

Bamboo is often considered to be a replacement of wood and industrial raw materials in traditional cottage and modern industrial sectors. Government of India (2002) noted that the bamboo plant helps in preserving forests by releasing 35 percentages more oxygen and reducing the carbon dioxide in the atmosphere. Khan, Amir Ullah; Hazra, A. (2007) In India, approximately 10 million hectares of area is covered by Bamboo out of which 28% is in the North East Region. There are more than 125 species belonging to 23 genera of bamboos found in India. Out of this, only 30 species are commercially used. They grow naturally up to 3500 m above mean sea level. 66% of India's bamboo resources exist in North East Region.

STATEMENT OF PROBLEM

Bamboo handicraft sector is predominant in the Indian handicrafts. There are millions of people depend on bamboo for part or all of their income. The whole plant part of bamboos can be utilized in many ways (Brojendro and Sobita, 2007). There are a wide variety of such products and they have been closely associated with the development of civilizations (Dr. Annamalai Solayappan, 2020). Bamboo is the base for a broad range of rural and semi urban cottage industries that provide livelihood for the rural poor. Pande (2012) claimed that the bamboo used for household products such as baskets, trays, jars, case, lampshades, fans and mats. Bamboo products are distributed to domestic and export markets. Samir Jamatia (2012) noted the domestic market is segmented for furniture and handicraft. The high-quality products are directed to high-end markets (i.e., hotels, restaurants, condominiums, and residential houses) while low- quality ones are sold to low-and-medium income consumers. Dhurga S (2017) stated that barriers to realizing the potential of bamboo are the poor market linkage and technology application. Hence, this study examines the manufacturing and marketing problem of bamboo product in India.

Percentage of Area under Bamboo Plantation



MARKETING USE OF BAMBOO PRODUCT

Handicraft (Cane & Bamboo)

A handicraft is more precisely expressed as artisanal. Planning Commission, (2003) handicraft is a wide variety of work useful and decorative objects. John Jacob (2019) It is a traditional sector of craft and applies to a wide range of creative and design activities that are related to making things with one's hands. Handicraft work was including textiles, moldable and rigid materials, paper, plant fibers, etc.

Ply Board from Bamboo

Aneesh Kumar, et. al., (2017) Ply Board is wooden made board or wooden like raw materials largely used for making ply board. Bamboo can be used for making ply board. There is large amount of bamboo available in our country. Bamboo on special processing can be converted into ply board. Matured bamboos are used for making ply board. For meet up the demand of ply board few new entrepreneurs can start this industry. Planning Commission, (2003) noted the development of bamboo-board is expected to relieve the pressure on wood, as the raw material is available at a much faster rate.

Activated Carbon from Bamboo

Forest management in Tamilnadu (2002) Activated carbon is a non-graphite form of carbon and is microcrystalline in nature. Raw materials are like rice husk, bamboo husk, coconut shell, saw dust; bagasse, wood and bamboo etc are available for the manufacture of activated carbon. Dhurga S (2017) noted the activated carbon produced in the country is catering to the need of vanaspati and solvent extraction plant, glucose and sugar industries, water treatment, chemicals, pharmaceuticals, synthetic rayons, electrochemical industries etc.

Bamboo Furniture

Forest management in Tamilnadu (2002) Bamboos are the fastest growing woody plants in the world. Its growth rate of up to 60 centimeters (24 in)/day is due to a unique rhizome-dependent system. Bamboo is a versatile, strong renewable and environment friendly material. This grass helps clean the environment and bamboo is widely used in landscape and garden. The bamboo is used in the following items: Table, Chair, Stool, Long Chair, Sofa Set, Mats.

Pulp and Paper from Bamboo

Forest management in Tamilnadu (2002) Paper is a major product of the used widely in our society. The use of paper for various purposes is an essential feature of the modern society. Pulp and paper production is based on the use of bamboo as raw material, but also on the consumption of large-scale chemicals, like chlorine, sodium hydroxide, etc.

SCOPE OF THE STUDY

Bamboo is significant role in the socio-economic development of India. It was contributing to the economy of the nation. It is estimated that the annual turnover from a bamboo plantation in the country amount to 9,000 crores of rupees. Planning Commission, (2003) the demand of bamboo in India is around 26 million metric tons approximately and is expected to increase in the future. The multipurpose use of bamboo has made it a universal resource for the rural population. Government of India has launched the 'National Bamboo Mission', under the Ministry of Agriculture to promote the growth of the bamboo sector. 'National Mission on Bamboo Application', has been launched by the Department of Science and Technology to provide technological help in the bamboo sector. Savur, Manorama, (2003) The Cane and Bamboo Technology Centre (CBTC) have designed a project for the sustainable development of the bamboo industries to create a livelihood for people in the North Eastern India. Such initiatives can bring an organized bamboo cultivation structure within the country and facilitate more income for the rural population as well as contribute enormously to the national economy. The Tamil Nadu Horticulture department sought Rs 3.03 crore funds from the National Bamboo Mission to increase the area under bamboo cultivation in the state. Uma, deputy director of horticulture, Coimbatore stated in the proposal that the state has a capacity to bring at least 600 hectares of fresh land – 300 hectares of private land and as many hectares of non-forest land with the government - under the bamboo cultivation also asked for funds to set up five bamboo nurseries, conduct training session for respondent and maintaining plantations. From the fund, respondent, who agree to cultivate bamboo in their land that was used for other purposes, could obtain a subsidy of Rs 25,000 to Rs 50,000 a hectare. While the state government says the subsidy is Rs 25,000 per hectare for privately owned land, bamboo breeding experts say private respondent could avail Rs 50,000 per hectare. Dhugu (2017) The employment potential of bamboo is very high and the major work force constitutes of the rural poor, especially women and 432 million work days per annum are provided by the bamboo sector in India.

Aneesh Kumar, et, al., (2017) said the annual turnover of bamboo sector in India is approximately 9000 crores of rupees in 2015-16. It is one of the largest turnovers from a totally unorganized segment in India. John Jacob (2019) stated that the systematic and effective care taking of this unorganized sector will flourish like anything which will lead to balanced contribution to the national economy. This study intends to identify various manufacturing and marketing problem of bamboo products in Tamilnadu

REVIEW OF LITERATURE

Dhurga S (2017) attempted to examine the commercial potential for Bamboo products in India. Secondary review of data and various stakeholder personal communications are studied. The challenges in the sector and Production-to-Consumption System are discussed. It is explained that Bamboo products possess a large potential domestic market base but currently, export market dominated by China. A wide multitude of challenges exist at each stage in the Production-to- Consumption System.

Sri Gunani Partwi, Elly Agustiani, Anny Maryani (2015) claimed the small and medium-sized enterprises established to process and produce the products. Based on the potential for preparation development of bamboo plants, the regency has the advantages of local government support and education, bamboo respondent and SME's. However, this time is still not well-structured business strategies for the development of the bamboo plant.

RESEARCH METHODOLOGY

The study was conducted using a descriptive research design to evaluate Manufacturing and Marketing Problem of Bamboo Product in Tamilnadu. Entire Tamilnadu state has been divided into four zones such as North Tamilnadu (Thiruvallur, Kanchipuram, Vellore, Thirvannamalai and Villupuram Districts), Central Tamilnadu (Perambalur, Aruiyalur, Trichy, Karur, Cuddalore and Thanjavur Districts), Western Tamilnadu (Coimbatore, Erode, Salem, Namakkal and Dharmapuri) and finally south Tamilnadu (Nagarcoil, Tirunelveli, Tuticorin, Madurai, Teni and Pudukottai). Some of the districts have been omitted by the researcher because the respondents could not be reached. The population is not constant because the people doing more than one business. In our DIC centre and MSMEs are not keep the proper data.

Sampling Technique

Proportionate stratified sampling was used to select farmers for the study from each district.

Sample Size Determination

Formula as follows;

$$SS = \left(\frac{Z \times S}{E} \right)^2$$

Where,

Z= Standard value corresponding to a confidence level of 95%=1.96

S= Sample SD from the pilot study = 0.52

E= Acceptable error= 5%= 0.05

$$SS = \left(\frac{1.96 \times 0.52}{0.05} \right)^2$$
$$= 415.50$$

Here, the researcher has applied the formula for sample size determination based on the pilot study standard deviation values; they are applied to above formula and find out the sample size of 415.

ANALYSES AND DISCUSSION

Table 1 Reasons for bamboo Cultivation

Reason for bamboo cultivation	Mean	Std. Deviation
High profit	3.38	0.66
Land and natural climatic condition	4.23	0.71
Traditional pursuit	3.92	0.79
Less work	4.06	0.87
Easy selling	4.05	0.82
Low risk	4.03	0.85

Source: primary data computed;

Table 1 presents the respondents opinion towards reasons for bamboo cultivation. The researcher has identified the six reasons for bamboo cultivation. The respondents were asked to rate their opinion in the five-point Likert scale. Whereas five stands for strongly agree, four stands for agree, three stands for neutral, two stands for disagree and one stands for strongly disagree. Based on the collected data, mean and standard deviation values are computed. The mean values are ranged between 3.93 and 4.23. The standard deviation values are lies between 0.87 and 0.66.

From the mean value, it was identified that land and natural climatic condition (4.23) and less work (4.06) are secured higher mean value compared to others reasons for bamboo cultivation. But the respondents are rated that traditional pursuit is less important factor for bamboo cultivation. The respondents were felt that bamboo cultivation is not considered as low risk and easy selling. However, they are cultivating the bamboo due to less work and suitable for land and natural climatic condition.

Table 2 Financial problems in bamboo cultivation and marketing of the product

Financial problems	Mean	Std. Deviation
Improper distribution of subsidy	4.46	0.67
Shorter period of repayment of loan	4.26	0.71
Insufficient loan amount	4.30	0.74
Improper sanction of loan	4.16	0.65
Unable to pay the borrowed capital	4.36	0.79
High interest rate	3.99	0.69
Price is not proportionate with cost of cultivation	4.32	0.78

Source: primary data computed;

The researcher has identified various financial problems in bamboo cultivation marketing of the product. The calculated mean and standard deviation values are displayed the table 2. The calculated mean value of improper distribution of subsidy is found to be (4.46), followed by unable to pay the borrowed capital (4.30), price is not proportionate with cost of cultivation (4.32), insufficient loan amount (4.36), shorter period of repayment of loan (4.26) and high interest rate (3.99). The calculated standard deviation values for these financial problems are ranged between 0.79 and 0.65. It shows that the sample respondents were having similar level of opinion about financial problem in bamboo product. It is found that the respondents are having higher amount of financial problem related to subsidy distribution, unable to pay the borrowed capital, price is not proportionate with cost, insufficient loan amount, shorter period of repayment of loan, problem in sanction of loan amount.

Table 3 Manufacturing Problems in Bamboo products

Manufacturing Problems	Mean	Std. Deviation
Non- availability of labour	4.18	0.60
Increasing labour charges	4.37	0.68
Increasing input cost	4.41	0.70
Change in natural condition	4.31	1.01

Source: primary data computed;

Table 3 shows that respondent opinion towards manufacturing problems in bamboo product. Mean and standard deviation values are calculated based on the collected data. The mean score is ranged between (4.18) and (4.41). Here, the respondents were worried about the increasing the cost of input (4.41) increasing labour wages (4.37), change in natural condition (4.31) and also non- availability of labour (4.18). It is inferred that the increasing cost of input like fertilizers, pesticides, etc. Increases of labour wages, it may be due to increasing cost of living or labour and their demands. However, uncontrollable and unavoidable natural conditions were not in the respondent's hand.

Table 4 Problems in selling of Bamboo product to the Regulated Market

Regulated Market	Mean	Std. Deviation
Selling at appropriate time	1.60	1.20
Reasonable price fixation	1.66	0.95
Quality sorting is genuine	1.55	1.07
Polite behaviour of employee	1.81	0.95
Proper weighing	1.85	1.10
Less quantity for sample	1.73	1.02
Proper payment	1.98	1.07

Source: primary data computed;

Table 4 explains the Problems in selling of Bamboo product to the Regulated Market. Respondents are selling their bamboo through the various channels, but the most available channel for the respondents is either regulated market or brokers (commission agents). The mean score is lies between (1.98) and (1.55) and secured standard deviation values are ranged between (1.20) and (0.95). It shows that the respondent's opinion was not similar. The mean score of proper payment is found to be (1.98) followed by proper weighing (1.85), polite behaviour of employee (1.81), less quantity for sample (1.73), reasonable price fixation (1.66), appropriate selling time (1.60) and quality sorting is genuine (1.55). It is found that respondents are having lot of problems, during the sales of bamboo to the regulated market. In regulated market, there is no seasonal price fixation, no possible to sell at appropriate time, quality sorting is not genuine and improper behaviour of the employee.

Table 5 Marketing problem in bamboo product

Selling problem	Mean	Std. Deviation
Long marketing channel	4.45	0.72
Lack of processing units	4.40	0.67
High cost of transport charges	4.31	0.80
Lack of storage facilities	4.32	0.97
Lack of technical knowledge on grading	4.17	0.93
Lack of market information	4.20	0.92
Identifying the exporters	4.10	0.86
Finding the genuine brokers	4.01	0.86

Source: primary data computed;

Table 5 exhibits the opinion on marketing problem in bamboo product. There are ten general problems are identifying towards the marketing problem of bamboo products. The calculated mean and standard deviation values are ranged between 4.45 and 3.99. The standard deviation values are lies between (0.97) and (0.67). From the mean value it is observed that the respondents are felt unhappy due to long marketing channel (4.45), lack of processing unit (4.40), lack of storage facilities (4.32), high cost of transport charges (4.31), lack of market information (4.20), lack of technical knowledge on grading (4.17), identifying the exporters (4.10), and finding the genuine brokers (4.01). It is found that the respondents are having the more level of problem during the selling of bamboo product. There are long market channels, lack of processing unit, increasing cost of transport and lack of storage facilities.

FINDING OF THE STUDY

- The respondents were felt that bamboo cultivation is not considered as low risk and easy selling. However, they are cultivating the bamboo due to less work and suitable for land and natural climatic condition.
- It is found that the respondents are having higher amount of financial problem related to subsidy distribution, unable to pay the borrowed capital, price is not proportionate with cost of cultivation, insufficient loan amount, shorter period of repayment of loan, problem in sanction of loan amount.
- It is inferred that the increasing cost of input like fertilizers, pesticides, etc. Increases of labour wages, it may be due to increasing cost of living or labour and their demands. However, uncontrollable and unavoidable natural conditions were not in the respondent's hand.
- It is found that respondents are having lot of problems, during the sales of bamboo to the regulated market. In regulated market, there is no seasonal price fixation, no possible to sell at appropriate time, quality sorting is not genuine and improper behaviour of the employee.
- It is found that the respondents are having the more level of problem during the selling of bamboo product. There are long market channels, lack of processing unit, increasing cost of transport and lack of storage facilities.

SUGGESSTION OF THE STUDY

- ✓ Increased people income through bamboo farming and SME of bamboo craftsmen.
- ✓ Variation of bamboo is very varied according to the needs of SME of bamboo craftsmen.
- ✓ Improved quality of processed bamboo products through training and the use of appropriate technology.

CONCLUSION

The bamboo development is viewed as an instrument of poverty alleviation and employment generation for skilled and unskilled persons, especially unemployed youth particularly in the rural sector through eco-rehabilitation purposes. The present decade, it was competition from Chinese bamboo products hence; the Indian government concentrates the import of the product and save the bamboo cultivators and handicraft workers.

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